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INFORMATION FOR DECISION-MAKING

Report of the Secretary-General

Addendum

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I. REVIEW OF PROGRESS ACHIEVED, MAIN POLICY ISSUES AND EXPERIENCES

A. Establishment of coherent information programmes at the national level

1. Developed countries overall have well established infrastructures for information, including organization, electronic hardware and software, and telecommunications. Perhaps for these reasons, only about half of the developed countries that responded considered it necessary to develop an information policy for collecting and accessing data related to sustainable development. This is in contrast to respondents from developing countries, all of whom noted that they have created or are in the process of creating such policies at the national level, indicating that such countries are well aware of the importance of information for informed and participatory decision-making, and also illustrating the need for countries to build the capacity to collect, organize, analyse and make accessible relevant information. Development Watch (see para. 21 below) is intended to provide support for such capacity-building. The other activities covered here - indicators of sustainable development, Earthwatch, common access and core data sets - are also related to strengthening efforts at the national level. Although they are coordinated by the United Nations system in response to Agenda 21, they are in fact efforts to bring together all relevant stakeholders to find the most efficient and effective means of improving information for decision-making at the national level.

2. Most of the necessary data are available in developed countries. Some of the strongest areas include information on poverty; demographics; health; human settlements; protection of the atmosphere; integrated land management; deforestation; sustainable agriculture; biological diversity; biotechnology; freshwater resources; toxic chemicals; hazardous, solid, and radioactive wastes; all major groups except indigenous people, considered "not applicable" by a number of developed countries; financial resources; science; education; international institutions; and international legal instruments. Weaker areas among developed countries are those related to international cooperation; changing consumption patterns; integrated decision-making; mountain ecosystems; indigenous people; and technology transfer and cooperation.

3. Among the respondents, countries with economies in transition are strong in data on demographics; human health; human settlements; protection of the atmosphere; deforestation; biological diversity; solid and radioactive wastes (but not hazardous wastes); and non-governmental organizations. Their weakest databases are in the areas of international cooperation; changing consumption patterns; integrated decision-making; integrated land management; mountain ecosystems; biotechnology; protection of the oceans and seas; toxic chemicals; major groups generally; and technology transfer and cooperation.

4. Among responding developing countries, a number of good databases exist for international cooperation; demographics; human health; human settlements; agriculture; biodiversity; freshwater resources; non-governmental organizations; business and industry; and international legal instruments. Areas requiring the most support are poverty; changing consumption patterns; combating

desertification and drought; biotechnology; hazardous, solid and radioactive wastes; major groups except for non-governmental organizations; and technology transfer and cooperation.

1. Indicators of sustainable development

5. As discussed in the main report (E/CN.17/1996/18), nowhere is progress with respect to chapter 40 more evident than in the development of indicators of sustainable development. Since the United Nations Conference on Environment and Development (UNCED), 26 countries have programmes under way in various stages of maturity to develop such indicators as a means to organize information at the national level for decision-making. The 26 countries are: Australia, Belgium, Brazil, Canada, China, Costa Rica, Denmark, Finland, Germany, Iceland, India, Japan, Malaysia, Mexico, Morocco, Netherlands, Nigeria, Peru, Philippines, Sweden, Switzerland, Turkey, Uganda, United Kingdom of Great Britain and Northern Ireland, United States of America and Venezuela.

6. A few countries with economies in transition have indicated an interest in beginning such programmes as well. Most of these countries are linking their efforts to the work being undertaken under the auspices of the Commission to develop a framework and a common list of indicators from which countries may choose consistent with their needs.

7. For example, in Morocco, the Ministry of Environment has recently elaborated mid- and long-term goals in a new national strategy for development, with a core set of indicators presented in the same manner as those of the United Nations. Nigeria has indicated that it has moved slowly but systematically in the development of indicators because of a number of constraints, and is now preparing to measure progress towards targets expected to be set in the new national sustainable development strategy. Having laid the groundwork through its work on environmental indicators, Venezuela is working on a project for the development of a set of indicators of sustainable development, in which it expects to use the methodology sheets prepared on behalf of the Commission. Brazil has traditionally collected socio-economic statistics, and recently decided to develop indicators of environmental sustainability as a first step towards the construction of indicators of sustainable development, within the DSR framework. Japan is beginning to move from strictly environmental indicators to those for sustainable development, and is linking the indicators to integrated environmental accounting. In Germany, the Government is promoting a research project on the development of an indicator system, also within the framework of the expansion of the environmental accounting system; the methodological approach is oriented both regionally and towards ecosystems. Environment Canada continues to lead a federal effort to develop a comprehensive national set of environmental indicators for use by decision makers and the public, and these will all be accessible on Internet via Environment Canada's Green Lane in winter 1996. Work is also continuing on a project to test the application of sustainability indicators, using futures scenario modelling, as a tool for decision makers.

8. At its third session, the Commission approved a work programme on indicators of sustainable development, and called upon the organizations of the

United Nations system, with the support of other intergovernmental and non-governmental organizations and through the coordination of the Department for Policy Coordination and Sustainable Development of the United Nations Secretariat, to implement, within existing resources, the work programme as contained in the report of the Secretary-General on information for decision-making and Earthwatch (E/CN.17/1995/18). On 25 and 26 July 1995, the Second Expert Group Meeting on Indicators of Sustainable Development, organized by the Department, adopted an implementation plan for the indicators work programme, divided into three phases. Phase I, which runs from May 1995 to April 1996, includes two main elements: the compilation of two rosters of experts to assist in the implementation of the work programme, and the development of methodology sheets for each of the indicators, for use by Governments.

9. One of the major achievements of the entire process has been the full cooperation of a large number of organizations in the development of the methodology sheets even though such cooperation has been costly for the organizations involved in both time and money. In addition to the Department, the following organizations have assumed lead roles in consultations with Governments, governmental and non-governmental organizations, as required, for the indicator methodology sheets: Department for Economic and Social Information and Policy Analysis and Department for Development Support and Management Services of the United Nations Secretariat; ACC Subcommittee on Water Resources; International Decade for Natural Disaster Reduction secretariat in the Department of Humanitarian Affairs of the United Nations Secretariat; secretariat of the United Nations Framework Convention on Climate Change; United Nations Conference on Trade and Development (UNCTAD); United Nations Development Programme (UNDP), especially its Office to Combat Desertification and Drought (UNSO); United Nations Environment Programme (UNEP), including secretariat of Basel Convention and International Register of Potentially Toxic Chemicals (IRPTC); United Nations Centre for Human Settlements (Habitat); International Labour Office (ILO); Food and Agriculture Organization of the United Nations (FAO); United Nations Educational, Scientific and Cultural Organization (UNESCO); World Health Organization (WHO); International Telecommunication Union (ITU); United Nations Industrial Development Organization (UNIDO); World Bank; International Atomic Energy Agency (IAEA); World Conservation Union (IUCN); Organisation for Economic Cooperation and Development (OECD); and New Economics Foundation (NEF).

10. The Third Annual World Bank Conference on Environmentally Sustainable Development (Washington, D.C., 4-6 October 1995), addressed the issue of indicators in a round table on the theme "Effective financing of environmentally sustainable development: measurement issues and ESD indicators" and in an associated event on the theme "Monitoring environmental progress". The events emphasized the need for sharing data, field application, capacity-building, and the collaborative development of methodologies. World Bank efforts to develop indicators are discussed in its report entitled "Monitoring environmental progress". Among Bank initiatives are the development of wealth indicators and the collection of data for 192 countries.

11. An international workshop of experts organized and sponsored by the Environment Agency of the Government of Japan (Glen Cove, New York, 4-6 October 1995) provided guidance on the further refinement of the indicators

and improvement of the methodology sheets; its report will be presented to the Commission by the Government of Japan.

12. Work will now be concentrated on evaluating the usefulness of the indicators at the national level; aggregating indicators; and developing linkages among economic, social, environmental and institutional indicators.

(a) Initiatives at the national and regional levels

13. At the regional level, there is an increased focus on the need for indicators of sustainable development. The OECD core set of environmental indicators has been developed and used for a number of years, and the OECD pressure-state-response framework is widely used as the basis for the work being undertaken at the national, regional and international levels.

14. A state-of-the-environment report was published for Europe, including Central and Eastern Europe, in September 1995. Furthermore, the European Commission is establishing a European system of integrated economic and environmental indices, for which the methodology is being developed by the Statistical Office of the European Community (Eurostat). The Nordic countries recently launched a project on environmental indicators and published its first report in 1995.

15. The Economic Commission for Asia and the Pacific (ESCAP) is promoting a project on the identification of environmentally sound and sustainable development indicators, taking into consideration the work of the Commission. The indicators will be selected after appropriate consultation and then followed by field testing in selected countries of the region.

16. A workshop on the theme "Environmental information and indicators for countries of Latin America and the Caribbean" was organized by the Economic Commission for Latin America and the Caribbean (ECLAC) in June 1995 to raise awareness in countries of the region about the need to carry out work on indicators. A project on environmental and sustainability indicators for Latin America and the Caribbean is also being carried by UNEP, the World Resources Institute (WRI), the Organization of American States and the International Center for Tropical Agriculture.

17. The Economic Commission for Africa (ECA) organized a number of ad hoc expert group meetings in 1995 to develop parameters for indicators of sustainable development for Africa as a preparation for the Ministerial Conference on Sustainable Development in October 1995. The Network for Environment and Sustainable Development in Africa, jointly supported by the World Bank and UNDP/UNSO and the African Development Bank, has also been working on the development of indicators of sustainable development for the African region.

(b) Initiatives by international organizations (primarily at the global level)

18. Many of the organizations in the United Nations system are working on the elaboration of sets of indicators related specifically to their areas of expertise and mandate. In addition to sectoral areas, some of these initiatives

are cross-sectoral. For example, UNDP is developing indicators on the condition of the natural resource base, the development process (Development Watch), and social status, in addition to the indicators contained in the Human Development Index. The Department of Humanitarian Affairs has developed a humanitarian early warning system (HEWS) using a large number of indicators linking economics, trade and finance, food and agriculture, social issues, health and nutrition, environment and natural resources, human rights, displaced persons, refugees, conflicts, Government, and military and arms.

19. Non-governmental organizations have contributed heavily to the development of both the indicators and their framework. WRI, the New Economics Foundation, and the Scientific Committee for Problems of the Environment (SCOPE), in addition to developing their own work in the area of indicators of sustainable development, have been active participants in the indicator process for the Commission, along with the International Institute for Sustainable Development (IISD) and the World Conservation Union (IUCN). Campaigns for Action to Protect the Earth (CAPE 21) is identifying and assessing five key indicators of national governmental actions to move towards sustainable development. IISD has developed a compendium of initiatives, experts, organizations and publications in the field of indicators of sustainable development. The international assessment team of IUCN is assisting local strategy teams in Colombia, India and Zimbabwe to develop and test their own sustainability assessment methods. As a preparation for the youth intersessional meeting for the fourth session of the Commission, Rescue Mission Planet Earth is undertaking a project aiming at developing indicators of sustainable development as seen by young people from all over the world. The Free University of Brussels, in cooperation with the Government of Belgium, is undertaking a feasibility study for an on-line (World Wide Web) meta-database on sustainable development indicators.

(c) Initiatives at the local level

20. Sustainable Seattle was one of the first initiatives to develop indicators of sustainable development for use at the local level; many others have since followed. Among recent initiatives are an effort by the Universidad National of Costa Rica in cooperation with UNDP to develop local indicators of sustainable human development for Costa Rica; the Local 21 initiative in the United Kingdom; a workshop on local-level indicators of sustainable development for Chile, organized in 1995 by the Instituto de Ecología Política; and a research project of local sustainability indicators for Venice, Italy, undertaken by the Fondazione Eni Enrico Mattei.

2. Development Watch

21. At its third session, the Commission requested UNDP, in cooperation with other relevant organizations, to further define Development Watch and submit to it at its fifth session a progress report on the implementation of the programme of work for Development Watch, taking into account the need for a close linkage between Development Watch and Earthwatch. 1/ An interim progress report is contained in the main report (E/CN.17/1996/18, paras. 18-21).

3. Sustainable development networking programme

22. The sustainable development networking programmes (SDNPs) of UNDP support national efforts to bring together users and producers of information at the national level for the purpose of improving data collection, accessibility and analysis through both dialogue and electronic communication. Where they exist, they will serve as key cornerstones of Development Watch. As of January 1996, 24 SDNPs were expected to be in operation in 20 developing countries and 4 countries with economies in transition, along with two regional centres. Approval for an additional eight SDNPs was anticipated as of February 1996, one in an economy in transition and seven in developing countries. In addition, negotiations have begun for 21 additional SDNPs, of which three cover economies in transition, one covers the countries of the Aral Basin, one is the Small Island Developing States Network (SIDSNET) - intended for 35 small island States - and the balance will be in developing countries.

23. Additional information on SDNPs, including SIDSNET, is available through the World Wide Web (see annex II for the Web address).

4. Regional and international initiatives

24. The preparation of state-of-the-environment (SOE) reports has emerged as a major activity both for bringing together a range of important information and strengthening capacity-building at the national and regional levels. Their preparation incorporates the development of indicators, the collection, assessment, reporting and dissemination of data, and the training and support needed at the country level to carry out such activities. ESCAP is producing an SOE report for Asia and the Pacific every five years. Part of this process has involved the creation of a network of government-nominated focal points with electronic links for better communication. UNEP has been supporting countries and regional offices in the development of SOE reports and is in the process of producing a source book on SOE reporting to assist countries in improving their own reporting in this area.

25. The forthcoming FAO programme for the World Census of Agriculture 2000 emphasizes environmental issues and urges countries to collect more information of a general environmental nature. In the field of forestry statistics, FAO is promoting the development of a national capacity to collect, process and disseminate statistics on production and trade in forest goods and services and fisheries, as well as the expansion of statistical coverage to social and economic dimensions. FAO has established an international format for information-gathering on the forestry sector, and regularly updates it. Since 1994, FAO has worked through an inter-secretariat working group to minimize the duplication of statistics gathered in OECD. Other members of the informal group include the Economic Commission for Europe (ECE), the European Union, Eurostat, the International Tropical Timber Organization (ITTO) and OECD. In the farming systems sector, FAO activities are focused on establishing coherent information programmes at the national level. Support is given to national and regional organizations in participatory analysis of farming systems and their constraints.

26. The efforts of the United Nations Educational, Scientific and Cultural Organization (UNESCO) are mainly directed towards extending infrastructure and improving vocational training in communication and information in developing countries, small island developing States, and countries with economies in transition. Through its intergovernmental programmes, such as the UNESCO International Programme for the Development of Communication, the General Information Programme and the Intergovernmental Informatics Programme, UNESCO is able to help secure international technical cooperation for such purposes. Information services and networks in science and technology help scientists, engineers and decision makers in priority development areas to make better use of existing databases and other specialized information sources. But considerable gaps remain, especially in the field of education, in developing and least developed countries in sub-Saharan Africa.

27. The creation of networks provides a unique opportunity for continuous capacity-building through the interaction and sharing of information among network members. In its 1996-1997 work programme, UNEP is planning to design, support and service regional environment and natural resource information networks. The International Fund for Agricultural Development (IFAD) also proposes to support a network for strengthening the implementation efficiency and impact of its loan and grant projects in Latin America and the Caribbean. The network would be designed to share information on projects throughout the region and stimulate the participation of primary users from the Caribbean, Central America and Mexico, the Andean Zone and the Southern Cone.

28. The ESCAP secretariat has assisted in the establishment of a national forum of environmental journalists in 15 countries, who are in turn networked through the Asia-Pacific Forum of Environmental Journalists. ESCAP has also helped to build the capacities of non-governmental organizations in the region in writing citizens' SOE reports. Two of these have been published so far, one in Bangladesh and the other in Sri Lanka.

29. IFAD is supporting INFORUM, an international non-profit non-governmental organization established in 1990 to help local institutions develop more sustainable land-use systems, share their lessons and learn from others. INFORUM draws on electronic communications technologies to facilitate the development of regional and global partnerships, provide ongoing support to existing networks, and work with other organizations that provide services to their clients. As an example, INFORUM is currently evaluating the costs and benefits of information exchange among IFAD-funded livestock projects in China, Guatemala, Namibia, the Central African Republic, Cape Verde and Turkey.

30. Non-governmental organizations provide major support to country, regional and international-level activities to establish coherent information systems. WRI, for example, provides long-term advisory services to national and regional environmental information centres in Africa, Central America and South-East Asia, and is now in the process of developing AFRICALINK to connect more than 100 African institutions to the Internet. WRI is also developing a service to provide sustainable development information and profiles on the Internet.

31. The Consortium for International Earth Science Information Network (CIESIN) is developing new information cooperative nodes, including training programmes,

in collaboration with UNDP, UNEP, IUCN and other partners, to support developing countries. CABI actively pursues collaborative ventures and projects in its core areas (agriculture and rural development, forestry, human health), and is also increasing its activity in specific relevant fields, notably biodiversity information and training in environmental information. This means, inter alia, greater involvement in training and support for national information programmes in developing countries and countries with economies in transition. CABI partners include UNEP, the secretariat of the Biodiversity Convention, the International Environmental Information System (INFOTERRA), UNESCO, IUCN and several non-governmental organizations.

B. Strengthening of the United Nations system-wide Earthwatch

32. In January 1996, the Third Inter-agency Earthwatch Working Party agreed to a number of steps to improve collaboration and joint programming throughout the United Nations system (for more information, see main report (E/CN.17/1996/18)).

33. The adequacy and effectiveness of a long-term early warning mechanism for environmental change will also be reviewed to complement the report of the Secretary-General on early-warning capacities of the United Nations system with regard to natural disasters (A/50/526). One major change that is occurring, driven by the need to improve information for decision makers, is a shift away from traditional state-of-the-environment reporting that focuses on the past and present environment towards a more forward-looking reporting that includes modelling projections and scenarios, which should be more effective in guiding policy-making on environment and sustainability. The new Global Environmental Outlook (GEO) report series, being prepared by UNEP in cooperation with an extensive international network of research centres and organizations, responds to the request of the UNEP Governing Council in May 1995 for a new comprehensive report on the state of the world environment, including its present state; its projected state in 2015, in particular the expected impact on the environment of population increase, consumption and production patterns, and economic development; and the recommended response, in particular measures for reversing the principal threats. The first GEO report in partial response to this mandate, with an emphasis on regional priorities and perspectives, should be available in time for the fifth session of the Commission.

34. A framework for the planned set of global observing systems for land (Global Terrestrial Observing System), sea (Global Ocean Observing System) and climate (Global Climate Observing System) is now in place, and close collaboration has been established among the three systems and with other operational observing activities. At a time when many countries are short-sightedly cutting back on the basic data-collection activities that are fundamental to any effective management, whether of the economy or of the environment, the plans for the global observing systems, prepared with the best international scientific advice, should provide a guide to the essential kinds of cost-effective environmental observations necessary to manage both national sustainable development and the international environment on which all life depends. All countries are urged to consider how they can participate in these collaborative programmes of global observations, with their significant benefits at the national level: the best information systems for decision-making that

may be developed in response to chapter 40 will be ineffective if they lack the basic time-series data on the environment and development that are required to keep up with rapidly changing conditions.

35. Other activities related to Earthwatch include the ESCAP SOE report, for which purpose ESCAP has launched an effort to promote an integrated database at the national and regional levels, in collaboration with AIT/GRID. The United Nations University is establishing a global information plaza (UNU/GIP) that will function as a computer-based global information centre for United Nations agencies and the general public in such areas as environment and development. It will be available through the Internet, and the development of databases will also make up a possible component of UNU/GIP.

36. The Office of the United Nations High Commissioner for Refugees is compiling information at the camp level into a geographical information system database in order to generate thematic maps such as maps of protected areas; develop a remote-sensing image-processing capability for the regular monitoring of environmental impacts, such as deforestation around refugee camps; and improve the siting and layout of refugee camps.

37. The International Maritime Organization (IMO) participates in Earthwatch, and compiles and regularly updates numerous listings of information submitted by member States relevant to its regulatory role in respect of shipping safety and pollution prevention. IMO is also considering establishing a computerized international ship information database containing a range of information on individual ships engaged in international trade. UNESCO cooperates with FAO and UNEP in the development of standardized land-use and land-cover classification systems, and assists developing countries in gaining access to remotely sensed data sets on SOE, along with the Space Agencies Committee on Earth Observation Satellites (CEOS). UNESCO is also currently creating geological information system networks in developing countries to improve management of non-renewable resources; it has established the Pan African Network of Geological Information System, and is studying the launching of another such network in South Asia.

38. Work is also continuing on strategies to increase participation in environmental observations at the local and national levels. For instance, at a world summit on religions and conservation held in Windsor, United Kingdom of Great Britain and Northern Ireland, in May 1995, the assembled religious leaders expressed an interest in exploring how the institutions and personnel of religious organizations around the world could cooperate with Earthwatch and demonstrate their concern for the damage being done to the environment by undertaking regular environmental observations in their local areas. If such interest can be linked with the efforts of various non-governmental organizations and such initiatives as the Global Legislators Organization for a Balanced Environment (GLOBE) initiative to involve schools in environmental observations, a growing movement of popular support for observation and data-collection activities could reinforce and extend governmental and scientific efforts to document what is happening to the environment.

C. Delivery of information on sustainable development to small island developing States

39. Small islands assume special importance in the context of sustainable development in the Asia and the Pacific region. An ESCAP special body for Pacific Island countries is providing guidance to the secretariat for undertaking programmes in this area. In addition, the ESCAP Pacific Operation Center, based in Port Vila, Vanuatu, has been working to promote intensive interaction with the countries of the subregion, and is in the process of establishing a database on programmes and projects as a follow-up to the Global Conference on the Sustainable Development of Small Island Developing States, in cooperation with SPREP. An item on this topic was also included in the agenda for the Ministerial Conference on Environment and Development (Bangkok, 22-28 November 1995).

40. FAO is implementing a regional project in the South Pacific on training for farming systems and sustainable development; the project will involve a number of elements, including the exchange of information among planners, researchers and extension workers. FAO has also organized two regional workshops that will address, among other things, networking arrangements and information exchange. One of the workshops is intended for the South Pacific small island developing States (to be held in Samoa, 26-29 March 1996), and the other for the Caribbean (to be held in Barbados, April 1996).

41. The United Nations University has established a small island network in cooperation with the University of the South Pacific; one of the projects under development for this network is directed towards expanding USPNET for education purposes and capacity-building.

42. UNESCO is encouraging capacity-building for information services to promote sustainable development in small island States through the establishment of communication structures, including structures for distance education, the training of communicators, and building island production capacities. Central to this provision is a new interdisciplinary project on environment and development in coastal regions and small islands. Special attention will be given to information for decision makers.

43. For further information on this topic, see also the discussion on SIDSNET in paragraphs 22 and 23 above.

D. Measures for establishing a common or compatible system of access to the respective databases of United Nations system organizations

44. In response to a request of the Commission at its third session, the Department and UNEP, in cooperation with ISCC and ICC, organized a meeting on common and compatible systems of access to data on 19 January 1996 in New York. The meeting identified a set of principles for designing a United Nations information system, as well as principles for formulating a data access policy. The meeting discussed data content, modes of access and coordination with ISCC and ICC.

45. The participants decided that the only current and feasible means of providing common access to United Nations system data was through the Internet. At the same time, everyone was aware of the fact that a number of States, particularly developing and least developed countries, may not yet have access to the Internet due to telecommunication, infrastructural and technological constraints. The participants therefore emphasized that their recommendation to pursue common access through the Internet was based on the following assumptions: (a) that Development Watch, in conjunction with SDNPs and other information-related activities of UNDP, as well as information support programmes from other organizations, such as the World Bank, would proceed with assisting all States to establish Internet links by the year 2000; (b) that States that do not yet have Internet access might rely on access through their missions to the United Nations in the interim; and (c) that United Nations system information would remain available in print, diskette and CD-ROM, as applicable.

46. The meeting discussed the principles that should form the basis of any United Nations information system, and agreed to the following:

(a) Subsidiarity: it is in the nature of the United Nations system that information is collected for many purposes by innumerable organizational entities and held in many forms and places. Any information system should keep information decentralized and accessible to data collectors and users;

(b) Responsibility: those who collect or originate data should be responsible for its accuracy and appropriateness. Data should always be accompanied by meta-data, including date, origin and conditions for access, and should not be alterable except by the responsible parties;

(c) Transparency: to the extent possible, information should be freely available for all non-commercial users. All those involved in decision-making processes should have access to the same information with the highest standards of reliability;

(d) Efficiency: data should only be collected once by one responsible entity, thus avoiding unnecessary duplication (apart from that needed for quality control) and simplifying reporting requirements. In this way, once data is collected it should be readily and rapidly available to any others who need it;

(e) Economy: investment in the system should, where possible, be less than or equivalent to the amounts that are currently invested in collecting and processing information manually and in responding individually to the many requests currently made.

47. The meeting also addressed principles for a data access policy specifically in relation to high-level processed information on sustainable development; these are contained in the report of the meeting and have been forwarded to IACSD.

48. Based on what it considered to be the most cost-effective and feasible option, consistent with the work of ISCC and ICC and the most relevant to

decision-making, the meeting recommended that (a) the World Wide Web locator home page being established for the United Nations system by ISCC and ICC contain hot links to the proposed sustainable development home page; (b) a sustainable development home page be established on the World Wide Web (see below), with hot links to the "value-added" databases identified by the Agenda 21 task managers, with IACSD determining which organization in the United Nations system should take the lead role in setting up such a home page; (c) a sustainable development thesaurus be developed by the end of 1996, using the United Nations Bibliographic Information System (UNBIS) thesaurus as the starting-point. The thesaurus should include, inter alia, standardized country codes, as a basis for creating a computerized country directory and database, and standardized codes for data related to the indicators of sustainable development, as a basis for creating a computerized indicator directory; (d) once the thesaurus has been developed and accepted, standard procedures should be adopted among all United Nations system organizations for the authors of relevant value-added documents, reports, publications, etc. to index their material using the thesaurus and increase compatibility among their databases.

E. Other efforts to coordinate and harmonize the provision of information to decision makers

49. The coordination work of UNEP, in cooperation with the Department for Policy Coordination and Sustainable Development, to develop common and consensual core data sets, and that of the Department for Economic and Social Information and Policy Analysis to work towards a common data-collection system, are discussed in the main report (E/CN.17/1996/18). Additional efforts are discussed below.

50. ESCAP is in the process of developing a statistical information system (ESIS) to allow analysts to retrieve data from various sources through the same interface. The technical system was delivered in September 1995, but some data upload remains to be done. This is the first statistical system within the United Nations that conforms to the recommendation and architecture established for the United Nations Economic and Social Information System.

51. The recently established World Agriculture Information Centre (WAICENT) is a corporate system that aims at improving the information collected from national statistics offices and adding value to it through the use of corporate standards; this is expected to improve the comparability of information over time and among reporting sources. WAICENT combines many existing FAO databases in a common environment to facilitate access and navigation by users, and also makes information available to member States, according to their local capabilities.

52. One UNESCO function has been to act as a world clearing-house by providing information on education, science, culture and communication through, inter alia, its library, Integrated Documentation Network, archives and a number of referral databases.

53. The Information Cooperative was launched by CIESIN - a non-governmental organization - as a globally distributed information system that allows major

international data archives and resource centres to catalog and share information electronically. Participation in the Information Cooperative provides organizations with an electronic mechanism for disseminating information about their data as well as the data itself to a broad audience, while retaining ownership and responsibility for the data. The Information Cooperative: (a) provides a platform for the coordination of efforts and improvement of communication among national and international organizations that require access to data and information on global environmental change; (b) provides a catalog and data access system (the Gateway) to facilitate the location and access of data and information; (c) facilitates the exchange of data and information among natural, social and public health data users; (d) makes data resources available to users in developing nations and nations with transitional economies; and (e) makes available to the international research community data from developing nations and nations with transitional economies. The Information Cooperative provides tools for locating and accessing data and information, including searching for meta-data. It has recently announced the availability of a prototype Policy Instruments Database (PIDB), an on-line tool for browsing and searching of text, summaries and status of treaties and other international agreements related to global environmental change and sustainable development.

54. CABI's bibliographic database, CAB ABSTRACTS, contains a significant amount of socio-economic data, available on CD-ROM (CABCD and AgECONCD), on-line and on floppy disk on specific subjects, such as rural women. Rules on usage are distributed with all products, and special efforts are made to assist developing countries in gaining access to data and using it effectively, with specific restrictions. The content of two major bibliographic databases, CAB ABSTRACTS and CAB HEALTH, is immediately relevant to sustainable development. CABI has recently gone on the World Wide Web, and is exploring ways of making its data more accessible through this medium.

55. Several organizations have set up home pages on the World Wide Web (see annex II for a list of addresses).

II. MAIN TRENDS FOR THE FUTURE

56. The main trends in the area of information for decision-making may be described as an increasing integration of systems; improved access due to technical developments like the World Wide Web; enhanced technology and organization, which may increase the information gap; and a preference for more forward-looking information using modelling and projections. As the quantities of available information increase rapidly, more attention must be directed to the quality of such information and the ease with which users can find the appropriate, accurate and timely information that they require.

57. There is a growing emphasis on making information useful to decision makers at all levels; as a result, wider agreement on the use of indicators of sustainable development and increased interest in the analysis and interpretation of data are expected.

58. Coordination both among the organizations and bodies of the United Nations system and between the United Nations system and other organizations, both (inter)governmental and non-governmental, will continue and strengthen both because of functional imperatives and because the relative advantage to each cooperating partner is likely to reinforce the community of coordination. This is especially true in the area of information, in which standardization and harmonization are essential components of success.

59. As more and more countries and more and more people gain access to good information, the gap between such groups and those who are not able to keep pace will widen dramatically. It is absolutely essential that every effort be made at all levels by all those concerned to ensure that no country is left out of this information revolution.

Notes

1/ Official Records of the Economic and Social Council, 1995, Supplement No. 12 (E/1995/32), para. 6.

ANNEX I

Proposed principles for a data access policy

The Meeting on Common or Compatible Systems of Access to Data (New York, 19 January 1996, addressed the theme "Principles for a data access policy", specifically in relation to high-level processed information on sustainable development. The Meeting proposed the following principles, inter alia:

In principle, data collected by and stored within the United Nations system should be in the public domain and freely available to all users, unless Member States have specifically prohibited open access.

All data should be accompanied, as far as possible, by an acknowledgment of sources and the meta-data necessary to ensure its quality, timeliness and appropriateness for different uses.

In special cases, data access may be restricted for any of the following reasons:

(a) Data are covered by government-defined restrictions based on strategic, security or sovereignty considerations;

(b) Data have commercial significance, would reveal trade secrets, are covered by intellectual property rights or would give illegitimate holders an unfair commercial or trade advantage;

(c) Data are normally sold as part of a data commercialization or cost-recovery programme.

Where data are so restricted, they should be shared with other parts of the United Nations system for internal use without charge, provided that the specified restrictions accompany and are not separated from the data, and are respected by users.

Such data will not be shared outside the United Nations system except with official partners in United Nations-sponsored joint activities, for which the partner agrees to be bound by and to respect the same conditions and restrictions.

Restricted data may be used to prepare derivative or combined information products, provided that it is processed in such a way that the interests for which it is restricted are protected and the original data cannot be restored or reconstructed from the derivative product.

Where charges are normally levied for data, such charges will be waived for reasonable amounts of internal use by United Nations system partners on the principle of reciprocity, with the understanding that such data will not be made available to outside users who would normally purchase such data from the original supplier.

The Meeting adopted the above-mentioned principles and forwarded them to IACSD and ISCC for further action.

ANNEX II

List of World Wide Web addresses

The following is not a complete and comprehensive list. It includes World Wide Web addresses related to the United Nations System-wide Earthwatch and other sustainable development sources that have been provided to the Commission secretariat.

BASEL CONV.	http://www.unep.ch/sbc.html
CONV.BIODIV.	http://www.unep.ch/biodiv.html
CONV.CLIMATE	http://www.unep.ch/iucc.html
CCIW	http://www.cciw.ca (Canadian Centre for Inland Waters)
	http://www.cciw.ca/glimr/intro.html
	http://gwrp.cciw.ca/gwrp/gwrp.html
CIESEN	htpp://www.ciesen.org
	http://epawww.ciesin.org/gateway/gwhome.html (CIESIN Gateway)
	http://epawww.ciesin.org/glreis/GLREIS-home.html (Great Lakes Regional Environmental Information System)
	http://epawww.ciesin.org/national/epahome/epahome.html (EPA home)
DISASTER NET	http://www.disaster.net/index.html
Department for Policy Coordination and Sustainable Development	http://www.un.org/DPCSD/home.htm
EEA	http://www.eea.dk
EISG	http://zditrl.arcs.ac.at/~ozondv (group information and mailing system about environmental information systems under aspects of informatics techniques and developments)
EOSDIS (NASA)	http://harp.gsfc.nasa.gov:1729/eosdis_documents/eosdis_home.html
EARTHMAPS	http://www.gnet.org/earthmap

EARTHWATCH	http://www.unep.ch/earthw.html
ECONET	http://www.econet.apc.org/econet/
ECOWEB	http://ecosys.drdr.virginia.edu/EcoWeb.html
ENVIROLINK	http://envirolink.org
FAO	http://www.fao.org
Forest data	http://www.metta.fi/info/vlib/Forestry.html
GCOS	http://www.wmo.ch/web/gcos/gcoshome.html
GLOBE	http://www.globe.gov
GOOS	http://www.unesco.org:80/ioc/goos/iocgoos.html
GREENPEACE	http://www.greenpeace.org
GRID-Arendal	http://www.grida.no/(homepage)
	http://www.grida.no/soe92/index.htm
GRID-Brazil	http://www.inpe.br/grid/home
	http://www.inpe.br/grid/DataSetRequest
	http://www.inpe.br/grid/metaDBquery
	http://yabae.cptec.inpe.br/meteosat/home (METEOSAT image service)
	http://www.inpe.br/grid/quick-looks (images (JPEG compressed)) and
	http://www.inpe.br/Amazonia/home (tutorial on Amazonian affairs)
	http://www.inpe.br/ (homepage)
GRID-Geneva	http://www.grid.unep.ch
GRID-Nairobi	http://www.unep.no
	http://www.gsf.de/unep/index.html
GRID-Sioux Falls	http://grid2.cr.usgs.gov/grid/grid.htm (homepage)
	http://edcwww.cr.usgs.gov/dclass/dclass.html
IAEA	http://www.iaea.or.at/worldatom

ICAO	http://www.cam.org/-icao
IFAD	http:/www/unicc.org/ifad/home.html
IGAC	http://web.mit.edu/igac/www (International Global Atmosphere Chemistry Project)
IGBP-BAHC	http://www.pik-potsdam.de/bahc (Biospheric Aspects of the Hydrological Cycle)
IGBP-DIS	http://xtreme.gsfc.nasa.gov/igbp/dis_home.html (Data and Information System)
IGBP-GAIM	http://pyramid.unh.edu/csrc/gaim (Global Analysis, Interpretation and Modelling)
IGBP-JGOFS	http://wwwl.whoi.edu (joint ocean flux study)
IISD	http://www.mbnet.mb.ca/linkages (International Institute for Sustainable Development)
	http://iisdl.mbnet.mb.ca (IISDnet)
	http://www.mbnet.mb.ca/linkages/consume (Sustainable production and consumption)
IGOSS	http://rainbow.ldeo.colombia.eda/igoss/productsbulletin
ITC	http://www.itc.nl/homepage.html (International Institute for Aerospace Survey and Earth Sciences)
NASA	http://nssdc.gsfc.nasa.gov/
	http://gcmd.gsfc.nasa.gov/gcmdhome.html
	http://gcmd.gsfc.nasa.gov/difguide/difman.html (DIF Manual)
	http://gcmd.gsfc.nasa.gov/mduser_dir/dif_template.html (forms-based DIF authoring tool)
	http://www-mel.nrlmry.navy.mil/mel-bin/meta-val (FGDC)
PANOS	http://www.oneworld.org/panos
OneWorldOnLine	http://www.oneworld.org
SDNP/SIDSnet	http://www.undp.org/sdnp/sdnp/html
UNEP Nairobi	http://www.unep.no
UNEP Geneva	http://www.unep.ch

UNESCO	http://www.digimark.net/iatech/unesco/mab.htm (English)
	http://www.digimark.net/iatech/unesco/mabf.htm (French)
UNIDO-BINAS	http://binas.unido.org/binas/binas.html
UNIDO-GOPHER	gopher://binas.unido.org
UNITAR	http://www.unitar.rio.net
	http://www.africagis.rio.net (Africa GIS)
UNITED NATIONS	http://www.unicc.org
UNDP SEED	http://www/undp.org/seed/seed.html (UNDP Sustainable Energy and Environment Division)
UNU	http://blume.stanford.edu:8080/ and GLO-DISNET
US EPA	http://www.epa.gov/docs/Environment.html
USGS EROS	http://sun1.cr.usgs.gov/eros-home.html (US Geological Survey EROS Data Center)
US Nat. Park Serv.	http://www.nps.gov
WCMC	http://www.wcmc.org.uk
WORLD BANK	http://www.worldbank.org
WMO	http://www.wmo.ch
WRI	http://www.wri.org
WTO	http://www.wto.org

Note: World Wide Web addresses for United Nations system organizations are also available at the following two addresses:

http://www.unicc.org

http://www.undcp.org/unlinks.html